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THE EFFECTS OF THE GRANGER ACTS.

Similar laws [to that of Illinois] were passed by Iowa and Minnesota almost immediately afterward. The legislature of Wisconsin went even farther, fixing, by the so-called Potter law, the rates on different classes of roads at figures which proved quite unremunerative. The railroads made vain attempts to contest these regulations in the courts. They were defeated again and again, and finally in 1877, the Supreme Court of the United States sustained the constitutionality of the granger laws. But a more powerful force than the authority of the courts was working against the granger system of regulation. The laws of trade could not be violated with impunity. The effects were most sharply felt in Wisconsin. The law reducing railroad rates to the basis which competitive points enjoyed, left nothing to pay fixed charges. In the second year of its operation no Wisconsin road paid a dividend; only four paid interest on their bonds. Railroad construction had come to a standstill. Even the facilities on existing roads could not be kept up. Foreign capital refused to invest in Wisconsin; the development of the state was sharply checked; the very men who had favored the law found themselves heavy losers. These points were plain to everyone. They formed the theme of the governor's message at the beginning of 1876. The very men who had passed the law in 1874, hurriedly repealed it after two years trial. In other states, the laws either were repealed, as in Iowa, or were sparingly and cautiously enforced. By the time the Supreme Court published the Granger decision, the fight had been settled, not by constitutional limitations, but by industrial ones.¹

THE above paragraph expresses a view which has gained some currency without detailed and specific proofs.

In the literature of the subject the three chief effects of the granger acts are asserted to be: (1) Railroad construction came to a standstill; (2) the rates proved unremunerative, so that no money was left to pay dividends and in some cases not even fixed charges; (3) the "Potter law" was far the worst of the granger acts, and therefore, the effects were most sharply felt in Wisconsin. Since the laws were repealed most references to them have been merely incidental, and generally for the purpose of making them serve as a very strong argument against similar railroad regulation by the individual states or United States. To my mind this phase of the subject makes an investigation of the matter have more than a merely historical interest.

¹ HADLEY, *Railroad Transportation*, p. 134.

I.

The following passages are taken from reports, newspapers, journals, and books published since 1873. They are given approximately in the order of their publication. The list makes no pretense of being complete, but it is taken to be representative of the opinions current during this period.

The *Nation* speaks for the class of eastern owners of railway securities. The following quotations in 1873-75 show the feeling against the granger acts :

It is the general disbelief of the honesty of railroad management which causes the tone of anger generally pervading all discussions of the subject.¹ This means (giving figures of dividends, etc.) simply that the work of transportation in the United States is, on the average, already done at a loss to the owners of the lines, etc.² The railroads of the country, taken together, are an unprofitable enterprise, and do not pay the owners the ordinary rate of interest on the cost of constructing them.³ [Referring to the influence of the laws on the legislatures of Wisconsin, Illinois, Iowa, and Minnesota, it says]: thus giving to the members a power which will, according to all experience, make them purchasable as cattle; and that railroad managers will deal in them hereafter, almost as freely as in stocks, no intelligent man needs to be told. The attack on property in which the movement has resulted, is therefore really its least serious feature. Property in such large masses as the railroads has never yet in this country failed to take care of itself in the long run.⁴ The Potter law is simply a mild way of doing what a mob law does when it burns a station or tears up rails or throws locomotives off the track.⁵ The brigand mode of dealing with it, etc.⁶ A persistence in these low rates (Potter law) meant absolute ruin to the companies.⁷

President Alexander Mitchell of the Chicago, Milwaukee & St. Paul Railroad on the passage of the Potter law, wrote to the governor of Wisconsin as follows :

It is confiscation.⁸ That it has effectually destroyed all future railroad enterprise, no one who is acquainted with its effects in money centers will for a moment doubt.⁹ The law in question proposes to reduce our freight rates about the same (25 per cent.), thus deducting from our present tariff about 25 per cent. of our gross earnings.¹⁰ . . . [It takes from them] over three-fourths of the net income received under our present tariff,¹¹ etc.

¹ The *Nation*, Vol. XVI, p. 329, May 15, 1873.

² *Ibid.*, XVII, p. 36, July 17, 1873.

⁵ *Ibid.*, XIX, p. 122, August 20, 1874.

³ *Ibid.*, XVII, p. 69, July 31, 1873.

⁶ *Ibid.*, XIX, p. 122, August 20, 1874.

⁴ *Ibid.*, XIX, p. 37, July 16, 1874.

⁷ *Ibid.*, XX, p. 189, March 18, 1875.

⁸ *Report of the Railroad Commissioner*, Wisconsin, 1874. Appendix p. 1.

⁹ *Ibid.*, p. 2.

¹⁰ *Ibid.*, p. 3.

¹¹ *Ibid.*, p. 4.

President Albert Keep, of the Chicago & Northwestern, at the same time wrote a similar letter, stating that the rates under the new law would average 30 per cent. less than the former rates of the railroad.¹

Mr. Charles Francis Adams, a successful railroad commissioner and one of the great railroad authorities of Massachusetts, wrote of the "granger movement" in April, 1875 :

It is quite apparent, however, that the time has now come when the granger can be looked upon as a phenomenon of the past and treated in a spirit of critical justice.² The simple truth is that the granger excitement was not causeless, and that, in spite of the blunders which marked its career, it has done a great deal of very good work.³ . . . Finally [he says in closing] East and West, the good which has resulted and will yet result from the granger movement will be found greatly to predominate over the evil ; what is more, the good will survive, while the evil will pass away.⁴

Notwithstanding this very favorable attitude towards the granger movement, Mr. Adams in this same article thus speaks of the laws themselves.

The Potter law, so called, of Wisconsin, which seemed designed to operate as a practical confiscation of many millions of foreign capital invested in the public improvements of that state.⁵ As usual, however, the wild utterances took the form of yet wilder laws.⁶ If ever a problem called for wise legislation, founded upon careful and patient study, this one certainly did. The granger legislatures, however, went at it like so many bulls at red rags. . . . Yet practically the control of the railroads was to be taken out of the hands of the owners, and was to be placed in those of the state.⁷ The earliest constitution, whether of Illinois or Wisconsin, is young beside the great commandment, "Thou shalt not steal!" The action of the granger legislatures of those states has, however, more than once pressed hard upon it, and that, too, upon the averred ground that there was nothing to the contrary in the constitutions of the states. It is certainly not flattering to our national pride, nor conducive to a renewed faith in written constitutions, to reflect that much of the recent Illinois and Wisconsin railroad legislation would have been indignantly thrown out of Parliament, not as being contrary to any provision of a written code, but for the simple and obvious reason that it was opposed to common right, to common decency, and to common sense.⁸ Wisconsin, be it remembered, is the state whose legislature, by the enactment in 1874 of the most ignorant, arbitrary, and wholly unjustifiable law to be

¹ *Ibid.*, pp. 5 and 6.

⁵ *Ibid.*, p. 395.

² *North American Review*, Vol. CXX, p. 395. ⁶ *North American Review*, p. 406.

³ *Ibid.*, p. 395.

⁷ *Ibid.*, p. 408.

⁴ *Ibid.*, p. 424.

⁸ *Ibid.*, p. 413.

found in the history of railroad legislation, reduced the freight tariffs of its railroads twenty to fifty per cent.¹

In the middle of seven pages of the "Killing test" of figures of actual costs and dividends appears the following :

The "heads-I-win, tails-you-lose" basis of future construction, now with such indescribable gravity propounded from the Northwest, may excite a grim amusement in the money markets of the world, but that any railroads which involve a risk of loss will be built under it is more than improbable.² The granger movement touches, then the real cause of the evil under which the West is suffering only so far as it tends to supplement the disasters of the recent financial crisis and put a complete stop to all further immediate railroad construction.³ It (the granger movement) has placed many preposterous laws on the statute books of the West, which will probably long remain there, undisturbed memorials of legislative incapacity, and about as formidable as those ancient blunderbusses which sometimes in old-fashioned houses ornament the kitchen wall. Undoubtedly it has seriously impaired the credit of those states more especially identified with it, and notably that of Illinois and Wisconsin. For this, of course, they will have to pay dearly; higher interest and more binding guarantees will unquestionably be exacted of them, and, what is more, they will have to give them. Habitual borrowers cannot afford to play tricks with their credit, and it will be very long indeed before either the defeat of Judge Lawrence or the provisions of the Potter law are forgotten in Wall street or on the Royal Exchange.⁴

J. W. Midgley prepared an elaborate article at the request of the presidents of the two Wisconsin railroads, and published it with an introduction signed by them.

Could it be shown that, at the rates now imposed, the Wisconsin railways were enabled to earn fair returns, some justification for their continuance might be claimed. But the depressing fact is, that no railroad in the state (Wisconsin) is in position to earn a dividend; while two only from their earnings meet current expenses and interest on their indebtedness,⁵ etc. In compliance with popular demand, a crushing blow has been struck. Beneath it a mighty industry lies prostrate.⁶ Neither has the state benefited by the law. Wherever capitalists meet its baleful effects are known and appreciated. They deem its passage an act of dishonesty,⁷ etc. [Quotes consuls about foreign capital.]

W. W. Grosvenor, under the heading "The Communist and the Railway," wrote in 1877 :

¹ *Ibid.*, p. 416.

³ *North American Review*, Vol. CXX, p. 422.

² *Ibid.*, p. 420.

⁴ *Ibid.*, p. 423.

⁵ *The effect of Restrictive Legislation upon the Railways of Wisconsin and the material interests of the state* (Chicago, January 5, 1876), p. 7.

⁶ *Ibid.*, p. 8.

⁷ *Ibid.*, p. 19.

Acts were passed which entirely ignored the right of the stockholder to hope for any return whatever for his investment. The granger was a "toiler," while "bloated capitalists" made money without work. He turned Communist and began spoliation. Capital took fright,¹ etc. The crash of September, essentially a railroad panic, was the immediate effect of granger legislation, though due also to other causes,² etc.

L. H. Atwater in 1880 :

In our opinion legislative interference of the kind invoked would be sure to make them so (immeasurably worse). Such has been the effect of it in the granger states, in Colorado, in Great Britain,³ etc. What is known as the Reagan bill in Congress, would be vastly more mischievous than the granger legislation of the Northwest.⁴ But the experience of the effects of this granger legislation and its like everywhere has led to its substantial abandonment as hurting not only the railroads but still more the people.⁵

Four years later Mr. G. L. Lansing included a page and a table, showing the bad effects of the granger laws.⁶

In 1885 appeared a book on *Railroad Transportation* by Arthur T. Hadley, now president of Yale University. This book at once became the most quoted and most trusted authority on the whole subject of transportation. Professor F. W. Taussig wrote the following criticism of it :

Mr. Hadley's book deserves high praise. It is clear, scholarly, well written, well arranged, temperate and impartial, and yet vigorous and outspoken. It supplies a need which Mr. C. F. Adams's book filled with great, even though incomplete success, for matters as they stood ten years ago — the need of a compact discussion of what the railroad problem is, and what it means,⁷ etc. The book may be strongly recommended, both to those who are especially interested in railroads and the railway problem, and to the general reader who wishes to inform himself on one of the most important of public questions.⁸ And elsewhere he tells us that when the legislature of Wisconsin, by the Potter law, fixed rates at unremunerative figures railroad construction stopped, facilities on existing roads could not be kept up, and the state was compelled to repeal the law. The laws of trade could not be violated with impunity.⁹ There (in chapter on competition and combination) and throughout the book, are the marks of thorough study and clear-headed thinking.¹⁰

¹ *International Review*, Vol. IV, p. 587.

² *Ibid.*, p. 587.

³ *Princeton Review*, Vol. VII, "The Regulation of Railroads," p. 411.

⁴ *Ibid.*, p. 426.

⁷ *Science*, Vol. VII, p. 259.

⁵ *Ibid.*, p. 426.

⁸ *Ibid.*, p. 259.

⁶ *North American Review*, Vol. CXXXVIII, p. 464. ⁹ *Ibid.*, p. 259. ¹⁰ *Ibid.*

In *Railroad Transportation* appears the paragraph on the granger acts which heads this paper. The same ideas are repeated on p. 153, given at the close of this paper. The following year President Hadley repeated practically all of these statements :

In their anxiety to secure low rates, they had overlooked the necessity for railroad development. This oversight reacted forcibly against them ; and the same reaction is likely to be felt wherever reckless railroad legislation is attempted.¹ If your legislation prevents the investor from receiving his dividends, he will not invest his capital in your state. It is not now a question of ethics as to what you or he ought to do ; it is a matter of fact proved by actual experience, as to what he will do.² [Again in October of that year :] In fact, the system of direct legislation of monopoly charges, which gave rise to the granger cases themselves, proved so bad in its first consequences that it was being gradually abandoned at the very moment when the *right* to apply it was put beyond all question by the decision quoted. It is extremely difficult for a state authority to attempt to fix rates to advantage. If they are placed too high they are inoperative. If they are placed too low, they check railroad development in such a way as to do unbounded harm. This was the trouble with the granger legislation, and constituted the reason why the men who had passed it, in so many cases found themselves forced to repeal it.³

In 1887 a full page of *Harper's* contains the same statements.⁴ A year later an article in *Scribner* again repeats them and adds ;

Where the movement was strongest in 1873, it had practically spent its force in 1876. There have been many similar attempts in all parts of the country since that time ; just now they are peculiarly active ; but nothing which approaches in recklessness some of the legislation of 1873 and 1874. The lesson was at least partly learned.⁵ [In 1889.] As the result of these influences, the value of railroad property has fallen enormously. It is doubtful whether the combined effects of the crisis of 1873 and the granger legislation of the same period produced any greater effect in depressing prices.⁶ It is not unlikely that the total depreciation of railroad stock during the operation of the Interstate Commerce Act may have amounted to something like \$500,000,000.⁴ [In 1890.] There can be no doubt that railroad competition does act in the manner described, bringing rates too low to pay interest and repairs. This was proved in Wisconsin in 1874, when all rates were reduced by law to the level of competitive ones, and the railroads were actually unable to pay interest.⁷ [In 1891.] The tendency toward enforced

¹ *Popular Science Monthly*, Vol. XXIX, p. 6.

² *Ibid.*

³ HADLEY, *Quarterly Journal of Economics*, Vol. I, p. 37.

⁴ HADLEY, *Harper's*, Vol. LXXXV, p. 143.

⁵ HADLEY, *Scribner's*, Vol. IV, p. 484.

⁶ *Quarterly Journal of Economics*, Vol. IV, p. 178.

⁷ *Ibid.*, Vol. V, p. 159.

reductions of charges is, unfortunately, a much more real and immediate danger. Many of the states seem bent on repeating the experiences of the granger legislation half a generation ago,¹ etc. The same thing must repeat itself today. [For a whole page.]²

Chas. W. Pierson, in 1887, wrote a page and a half about Wisconsin and the Potter law. The railroads "worked to increase its enormities, hoping to get it into a shape that they could defeat." He paraphrases Hadley :

In the courts the farmers were victorious. But, unfortunately, the Supreme Court does not pass upon economic laws, and to these the movement had already succumbed.³ In the second year under the Potter law, no Wisconsin road paid a dividend, and only four paid interest on their bonds. Foreign capitalists refused to invest further in the state. On the recommendation of the governor, the very men who had passed the law hurriedly repealed it.³ . . .

Professor R. A. Seligman in an article on "Railway Tariffs and the Interstate Commerce Law," in 1887, thus spoke of the Iowa law of 1874 :

Proved to be so unequal and unjust in its operation that it was repealed shortly after. The results of the Potter law of 1874, in Wisconsin, and similar enactments in Minnesota and Illinois, were equally convincing. They proved to be rather a burden than a relief.⁴ . . . But the crudity of the laws was shown by the haste with which they were repealed.⁴ The granger movement was economically as unwise as it was politically important and successful. The compulsory commissions were an avowed failure.⁵

Judge W. J. Woods, third vice-president of the Louisville & Nashville Railroad Company, appeared before the committee on Finance, Ways and Means of the Senate of the General Assembly, State of Tennessee, September 9, 1891. He thus discussed the granger acts :

It then happened, when there was a loss to be divided instead of a profit, that the farmers' movement commenced during the years I have mentioned, known as the granger movement, which was an attempt to impose the entire loss upon the railroads by stringent regulation with reference to railroad rates.⁶

I want to bring before you some proof of what was the result of these enactments. I read you extracts from Professor Hadley's book on *Railroad*

¹ *Atlantic Monthly*, Vol. LXVII, p. 389.

² *Ibid.*, p. 390.

³ *Popular Science Monthly*, Vol. XXXII, p. 207, December, 1887.

⁴ Reprint from *Political Science Quarterly*, Vol. II (No. 2, 1887), p. 23.

⁵ *Ibid.*, p. 83.

⁶ *Railroad Taxation* (Pamphlet, 1891), p. 13.

Transportation. Dr. Hadley is a professor of Economy in Yale University ; has no interest in railroads ; indeed, in the very book from which I read, he attacks railroad managers sometimes most vigorously ; but he sets out this particular page of history with great force, and it teaches a lesson which I, both as a railroad officer and a citizen of your state, to some extent identified with its prosperity, urge that you shall heed. Professor Hadley says : But a more powerful force, etc.¹ [quoting the paragraph that heads this paper]. Again Professor Hadley says, on p. 153 of his book : Any legislation which seriously affects railroad profits will check the increase of railroad facilities. Such increase of facilities is essential to the development of any growing American community. If such a community passes laws hostile to the railroad interest, it soon feels the evil effects. The Potter law in Wisconsin is an instance in point. The reduction in charges caused a reduction in profits ; this stopped the growth of railroads ; the growth of the community was thereby brought almost to a standstill. The very interests which were most clamorous for the law in 1874 were most clamorous for its repeal in 1876.²

General Horace Porter in 1891 wrote :

The legislatures of several of the states have enacted laws to effect a reduction of rates, the literal obedience of some of which would amount to the practical confiscation of railway property. They have not confined themselves to the exercise of direct legislative action, as the immediate representatives of the people, but have resorted to the pernicious practice of delegating the extraordinary power to fix rates to commissions composed of a few individuals. What is known as the "granger" warfare against railways began in several states as early as 1873. In the year 1877 Congress enacted the Interstate Commerce law.³

W. M. Kirkman, who has written much on railroad subjects, in his *Railway Rates and Government Control*, speaks of the crippled condition of the railroads.³ Wilson Stilz, in 1889, wrote the last article I know of directly reflecting the views of President Hadley. This article has a preface⁴ written by Emory R. Johnson, professor of economics at the University of Pennsylvania, under whose direction Mr. Stilz wrote. There is also an introduction⁵ by Martin A. Knapp, chairman of the Interstate Commerce Commission. Mr. Stilz says :

Neither local nor personal discriminations were bettered, therefore, the net effect of granger law upon the companies was simply to annihilate their

¹ *Ibid.*, pp. 13 and 14. ² *North American Review*, December, 1891, p. 719.

³ Edition of 1892, pp. 186, 187.

⁴ *Publications of University of Pennsylvania, Series Political Economy and Public Law*, No. 15, 1899.

⁵ *Ibid.*

profits. Railroads were no longer a paying investment. Capital sought other fields, and the development of our railway system was suddenly checked. This result was so evidently due to hostile legislation, and was so serious a blow to the prosperity of our young western states, that the most severe laws, such as the Potter law of Wisconsin, were quickly amended or repealed. Judged merely on the basis of its immediate purpose, therefore, granger legislation was a dire failure. True, it had been more successful than competition, in that it had actually brought about a general reduction of so-called extortionate rates; but, as we have seen, this result was accomplished at such cost that all classes were glad to see the laws modified or repealed.¹ This change in the public demand was neither because a low rate was no longer desired, nor because its attainment had been despaired of, but was the result solely of the fact that a big reduction of railway charges had taken place from natural economic causes,² . . . Combined to cause a rapid decline in transportation charges to a level exceeding the fondest hopes of the early grangers.³ A movement making the years from 1867-1877 of greater aggregate significance in the general evolution of our railway regulation than any other period of equal length. In the light of this fact, a brief consideration of granger law, its causes and effects, would be pertinent in the treatment of almost any great railway question.⁴

F. H. Dixon, in his *State Railroad Control, 1896*, says: "It has been repeatedly charged that the effect of the law was to check railroad building."⁵ He does not commit himself in this book, but in an article in 1898 by inference, at least, supports Hadley's ideas.⁶ Professor Simon J. McLean, in September, 1900, refers to Hadley, Adams, Stickney, and Larrabee, and gives the following conservative summing up:

The granger laws attempted, on the whole, to give what was considered a fair return upon railroad investment. The difficulty of attempting to regulate railroad business through rigid legislation was abundantly evident in the operation of these laws. The Potter law, which fixed rates lowest, proved to be too drastic in operation, and was soon repealed. Michigan had a similar experience. The Iowa law was more moderate in its operation, and was, on the whole, fairly satisfactory. During the period it was in operation the receipts of the railroads situated in Iowa increased, on the average, \$1,000 per mile. The law worked much better than might have been anticipated.⁷

In opposition to this long list of writers there are three men who have especially advocated the position of the grangers. In 1876

¹ *Ibid.*, p. 119.

² STILZ, p. 122.

³ P. 29.

⁴ *Political Science Quarterly*, Vol. XIII, p. 623, 1898.

⁵ *Economic Journal*, Vol. X, p. 355.

appeared an article signed "Wisconsin Granger," and entitled the "Grange and the Potter Law." The Potter law did not reduce rates below a non-remunerative standard. It did not destroy railroad values, nor did it reduce them to any material extent, nor check railway construction.¹ The actual test of the law increased the net earnings, by reducing expenditures and increasing business, and proved wholly beneficial.² The stringent prohibition of discrimination in rates between individuals and of free passes.³

A. B. Stickney, for many years president of one of the north-western railroads, published *The Railway Problem* in 1891, and gave an excellent treatment of the granger question.

It will be noticed that Mr. Mitchell's strong point is that the statutory rates, if enforced, would deprive his company of net earnings which would be equivalent to confiscation of the property.⁴ The "granger laws" have served the purpose of a "bloody shirt" to conceal incompetence in railway management for twenty years at least.⁵

Two years later Governor Larrabee, of Iowa, published *The Railroad Question*, giving a still more thorough account of the whole granger movement:

It is a failing of mankind to take for truth without further investigation any assertion that has often been reiterated. Most people are prone to believe that an assertion made by a thousand hearsay witnesses is true, overlooking the possibility of their drawing from a common false source. But it is surprising that an author like Professor Arthur T. Hadley should fall into such an error. In his otherwise excellent work, *Railroad Transportation, Its History and Its Laws*, Mr. Hadley bases a number of his deductions upon false premises advanced by railroad managers, and arrives at conclusions which appear strange when their source is considered.⁶

He then quotes paragraph heading this paper:

These statements are either utterly untrue or greatly misleading. Mr. Hadley ought to know that the railroad companies in the granger states never complied with the letter, much less with the spirit of the law. Whenever they made an apparent effort to live up to it, they only did so to make it odious. Rates were never reduced by the legislature to the basis previously enjoyed by competitive points, but merely to the average charge which had obtained before the passage of the law. As a rule the railroad revenues increased. If any companies failed to earn enough to pay fixed charges, it was simply because they were determined not to do so. A non-payment of dividends did not injure the managers, but simply other stockholders of the road. A permanent establishment of the principle of non-discrimination, on

¹ *International Review*, Vol. III, p. 666.

² *Ibid.*, p. 667.

³ *Ibid.*, p. 667.

⁴ Edition of 1891, pp. 100-110.

⁵ *Ibid.*, p. 121.

⁶ LARRABEE, p. 245, *et seq.*

the other hand, would have benefited stockholders, while prejudicing the speculative interest which the managers had in the roads. Railroad construction came, after the financial panic of 1873, to a practical standstill throughout the United States; and if the granger states did not get their share of the very small total increase during the five years following the panic, it was due solely to a conspiracy on the part of the railroad managers to misrepresent and pervert the legislation of these states. These laws, as has already been stated, were finally repealed, not because the people had had tired of them or regarded them unwise, or unjust, but because it was hoped that the commissioner system would prove more efficient. It was offered as a compromise measure and was accepted as such by the railroad managers, who, in their eagerness to rid themselves of the restrictions imposed by the granger laws, gave every assurance of complete submission to the proposed legislation.¹

Recognizing to the full the value of the writings of President Stickney and Governor Larrabee, there can still be no question that the great mass of authority supports the statements of Mr. Charles Francis Adams and President Hadley.²

¹ LARRABEE, p. 246.

² As we have already seen, President Alexander Mitchell estimated the reduction in rates due to the Potter law at 25 per cent.; President Albert Keep, at 30 per cent.; and Mr. Adams, at 20 per cent. to 50 per cent. The following table gives the rate per ton per mile. Column (1) for the six railroads (Illinois Central, Chicago & Alton, Chicago & Rock Island, Chicago, Burlington & Quincy, Chicago & Northwestern, and Chicago, Milwaukee & St. Paul), from 1865-1885; column (2) the same for the Chicago, Milwaukee & St. Paul alone; and column (3) for twelve years of the Chicago & Northwestern. A mere glance at the figures for the granger period proves that there was no marked falling of rates during those years, and that the ever present tendency of rates to fall kept on the same as usual.

	No. 1. Six Railroads.	No. 1. Chicago, Mil- waukee & St. Paul.	No. 3. Chicago & Northwestern.
1865.....	3.642	4.11	
1866.....	3.459	3.76	
1867.....	3.175	3.94	
1868.....	3.151	3.49	
1869.....	3.026	3.10	
1870.....	2.423	2.82	3.09
1871.....	2.509	2.54	2.87
1872.....	2.324	2.43	2.61
1873.....	2.188	2.50	2.35
1874.....	2.160	2.38	2.22
1875.....	1.979	2.10	2.10
1876.....	1.877	2.04	1.95
1877.....	1.664	2.08	1.86
1878.....	1.476	1.80	1.46
1879.....	1.279	1.72	1.56
1880.....	1.389	1.76	1.49
1881.....	1.405	1.70	1.47
1882.....	1.304	1.48	
1883.....	1.310	1.39	
1884.....	1.220	1.29	
1885.....	1.158	1.28	

II.

The same questions may be taken up in detail by the help of statistics. I take the figures for increased mileage, net earnings, etc., for the railroads in the four granger states, and compare these figures with similar figures for the railroads in the other states. These figures are all taken from *Poor's Manual*; and since they have been furnished by the railroads themselves at the period investigated, they cannot be open to any criticism as being unfavorable to the railroads. In fact the many quotations in the first part from railway officials as to the evil effects of the granger legislation make it evident that if bias has influenced the figures of the railway reports, this bias has been against the granger acts. Therefore, if the figures have erred at all they must have erred in exaggerating the injuries to the railroads during the granger period.

Realizing how often a superficial use of statistics may give misleading results, I have in this investigation followed out all suggestions and made all combinations that might conceivably lead to results of a different character. The fact that all such results have practically agreed in all important particulars seems to warrant submitting them in comparison with the results drawn from the written authorities as recorded in the first part of this paper.

1. The first question is that of railroad construction, as shown by tables of increased mileage.
2. The second is that of the money loss to the railroads, as shown by the tables of net earnings.
3. As the Potter law is the worst of the granger laws, do the figures show that Wisconsin suffered more evil effects than the other granger states?

The granger laws affected only the four states, Illinois, Wisconsin, Minnesota, and Iowa. These may be compared with other states, which should as nearly as possible have the the same conditions as the granger states in all respects except in regard to railroad legislation. After several trials I have chosen the four states, Indiana, Michigan, Nebraska, and Missouri as most nearly filling these conditions as to geographical position, area, population, assessed valuation, industrial development and railroad mileage. These states are referred to in the accompanying table as "four western states." The following Table A shows their similar conditions very clearly:

TABLE A.

A comparison of the four granger states and four neighboring western states.¹

	Area—Mil- lions of sq. miles.	Population, millions, 1870.	Population, millions, 1880.	Assessed valuation, millions, 1870.	Population in 1873 to one mile railroad.	One mile railroad to sq. mile of area in 1873.
Illinois	55	2.5	3.1	483	407	8
Wisconsin	54	1.1	1.3	333	480	23
Minnesota	84	.4	.8	84	278	43
Iowa	56	1.2	1.6	303	328	12
Four granger . .	249	5.2	6.8	1,203	390	17
Indiana	34	1.7	2	664	476	9
Michigan	56	1.2	1.6	272	406	17
Nebraska	76	.1	.5	55	200	69
Missouri	65	1.7	2.2	556	649	23
Four western . .	231	4.7	6.2	1,547	473	21

In order to broaden the comparison as to mileage, I have included the figures for the six middle states (New York, New Jersey, Pennsylvania, Delaware, Maryland and West Virginia); the ten southern states (Virginia, Kentucky, North Carolina, Tennessee, South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana); and for the total United States. In 1873 the railroad mileage of the four granger states was 14,627 miles, of the four western states 10,932 miles; six middle 13,643; and ten southern 12,977. These four groups had 75 per cent. of the total mileage of 70,268 for the United States. As the four western, the six middle, and the ten southern states had no railroad legislation corresponding to the granger acts, these states should show a comparatively steady growth in railroad mileage during the granger period. If, however, these states do not show such a steady increase in railroad mileage, then the cause must be sought in something different from the granger legislation.

¹ The last three columns of this table show that when the granger acts went into effect the four granger states had more miles of railroad compared with assessed valuation, population and area than the four western states. Therefore, other things being equal, the railway mileage in these four western states should have increased faster after 1873 than the mileage of the four granger states. This is further shown by the fact that in the period 1873 to 1900 the railway mileage of the four western states did increase by over 149 per cent. of what it was in 1873, and the mileage in the four granger states during the same period by over 133 per cent.

TABLE B.

Increased railroad mileage expressed in per cent.

	1 1860- 1870.	2 1870- 1880.	3 1880- 1890.	4 1871 1872 1873.	5 1874- 1875.	6 1876- 1877.	7 1876 1877 1878.	8 1873- 1878.	9 1873- 1881.
Four granger.....	133	96	50	44.5	6	5.5	10	24	56
Four western.....	100	90	74	45.4	4.1	5.6	9.1	20	47
Six middle.....	64	45	35	24.4	5.9	4.8	6.9	19	27
Ten southern.....	115	33	72	16.2	2.4	3.9	5.5	12	29
Total, U. S. . . .	74	74	79	33	5.5	6.7	10.4	24	54

In Table B I have reduced the increase in railroad mileage to percentages for ease of direct comparison. Thus, in the first column between the years of 1860 and 1870, the mileage in the four granger states increased by 133 per cent. of what it was in 1860; and in the four western only 100 per cent. The years 1874 and 1875 were the periods when the granger acts were in operation; and the results for these two years are printed in heavy type. A glance at column 5 will show that the mileage in the granger states increased 6 per cent.; that in the four western 4.1 per cent.; the six middle 5.9 per cent.; the ten southern 2.4 per cent.; and for the total United States less than 5.5 per cent. All the other figures in this table go to show that this comparison for 1874 and 1875 is not accidental, and that similar results are obtained for any combination of years that can be said to have been influenced by the agitation and acts from 1871 to 1881.

Column 1 shows the increase from 1860 to 1870, the ten years before there was any question of granger legislation. During this decade the granger states increased 133 per cent. and the four western only 100 per cent. Glancing again at the conditions in these two groups of states, as shown in Table A, it seems to me to be clear that we should expect a greater increase in the mileage in the four western states for the next decade of 1870 to 1880 than in the granger states. Especially is this reasonable, when we remember that the granger states had just increased by 33 per cent. more than the four western states. Therefore, if no granger legislation had been enacted, and the railroads had developed under normal conditions, new construction from 1870 to 1880 in the four western states should have exceeded that in the granger states. The figures of column 2 show, however, that the granger states increase 96 per cent. as compared with 90 per cent. for

the four western ; 45 per cent. for the six middle ; 33 per cent. for the ten southern ; and 74 per cent. for the total United States.

In columns 1 and 2 it is noticeable that, while all the groups of states show a falling off in the second decade, the ten southern states, which are half way between the granger and four western in column 1 sink to hardly more than one-third of either of them in column 2. Is it not, then, natural to believe that whatever cause affected railroad building between 1870 and 1880, must have acted more strongly on these ten southern states than on the granger or four western states ?

Column 3 gives the data for 1880 to 1890, a period covering years after all effects of the granger acts had passed away. As the building in the granger states for the preceding twenty years had been very large, we should naturally look for a slowing down. This we see in the 50 per cent. of the granger states compared with the 74 per cent. and 72 per cent. of the four western and ten southern. Here again the sudden increase in the ten southern, compared with the 33 per cent. of 1870 to 1880, shows that the cause of retarded railroad building had affected these states with greatest severity. Also, the 74 per cent. of the four western shows that, other things being equal, these states should have built at least as fast, if not faster, than the granger states between 1870 and 1880.

Column 4 takes 1871, 1872, 1873, three years immediately preceding the granger acts. The figures for the granger and four western are almost the same, but the granger begin to show a slight tendency to slow down, as would be expected from the greater building in the earlier decade.

Column 5, as already stated, deals with 1874 and 1875, the two years of the granger acts. The 6 per cent. increase for the granger states certainly compares favorably with the 4.1 per cent. of the four western and the 2.4 per cent. of the ten southern. In short, the granger states make a better showing than any of the others, and the ten southern show the greatest loss.

Columns 6 and 7, for the years 1876, 1877, and 1878, immediately following the granger acts, show that the building in the granger states remained practically the same as in the four western. In fact, the two years right after the repeal of the acts show a little less building for the granger states.

Columns 8 and 9, for periods of five and eight years after the acts, show that the granger states more than held their own in railroad building throughout the granger period. This table, as a whole, shows

not only that the granger states had more than their natural share of railroad building in 1874 and 1875, but also for any combination of years affected by the granger legislation. This result is more noticeable when we remember that, other things being equal, the four western states should have increased at least as fast, if not faster, than the granger states.

Question 2.—Did the receipts of the railroad fall away, as shown by their net earnings? In *Poor's Manual* the figures for net earnings have never been as completely compiled as the figures on new mileage, and the investigation is therefore confined to the years 1871 to 1879. For a basis of comparison, I have taken the average net earnings for 1871 to 1872, the two years preceding the granger agitation. In Table C the average net earnings for 1874 and 1875, the four years 1873 to 1876, and the seven years from 1873 to 1879, have in turn been compared with the average of 1871 and 1872 and the increase expressed in percentages :

TABLE C.

Increase of average net earnings in per cent. compared with the average net earnings for two years 1871 and 1872.¹

	1 1874-1875.	2 1873-1876.	3 1873-1879.
Four granger. . . .	29	31	44
Four western. . . .	15	9	30
Six middle.	40	33	25
Ten southern.	32	34	23

Column 1 shows that in 1874 and 1875 the net earnings in the granger states increased 29 per cent., which was almost double the 15 per cent. increase in the four western. This difference in favor of the granger states is still more marked for 1873 to 1876, when the figures are 31 per cent. and only 9 per cent. In column 3, the three years 1877 to 1879 are added to the preceding four years, and both the granger and the four western states leap ahead with 44 per cent. and 30 per cent. Therefore, if we take the four years 1873 to 1876, most affected by the granger legislation, the granger states held their own with the middle and southern, and increased three and one-half times as fast as the four western.

This table should not be given too much importance, since the comparison with the average of 1871 and 1872 is too narrow, but if

¹ *Poor's Manual*, 1874-75, p. 55, for 1871-73; *ibid.*, 1881, p. 79, for 1873-79.

these figures are used at all they must strengthen the results of Table B by adding proof that the granger states more than held their own in net earnings.

Question 3.—As the “Potter law” was the worst, do the figures show that Wisconsin suffered more evil effects than the other granger states? In answer to this, I have compared Wisconsin with the granger states and also with the four western states, first as regards new mileage and then as regards net earnings.

Table D gives the increased railway mileage in percentages for various periods between the years 1870 and 1880, the increase being in each case shown by comparison with the mileage of the year immediately preceding the period in question. Thus, column 1 shows that the mileage of Illinois in 1871 and 1872 increased 34 per cent. over what it was in 1870.

TABLE D.

Increase of railroad mileage in per cent. for comparison of Wisconsin with neighboring states.

	1 1871-1872.	2 1871-1873.	3 1874-1875.	4 1873-1875.	5 1876-1877.	6 1873-1879.
Illinois.....	34	37	7.9	11.8	3.2	19
Wisconsin.....	23	55	8.7	36.6	5.3	54
Minnesota.....	75	79	2.1	4.4	10.	57
Iowa.....	36	39	3.2	5.7	7.5	31
Granger.....	36	44.5	6.	12.5	5.5	32
Indiana.....	15	17	6.7	8.6	2.4	19
Michigan.....	82	99	2.8	12.4	3.9	23
Nebraska.....	49	57	5.4	11.	13.6	55
Missouri.....	34	43	1.6	8.7	10.1	39
Four western.....	38	45.5	4.1	10.	5.6	29

Column 1, for 1871-72, the two years preceding the granger agitation, shows that Wisconsin built less mileage than the average of the other granger and four western states. In short, Indiana (not a granger state) alone of these seven states has as small an increase as Wisconsin. When, however, we add, in column 2, the building for 1873 to 1871 and 1872, though this was a year of great agitation against the railroads, we find that Wisconsin jumps to 55 per cent., which is above the average for those three years and is exceeded only by Minnesota and Michigan by an appreciable margin and just more than equaled by Nebraska. Notwithstanding this jump of Wisconsin for

the year 1873, when we come to column 3, the results for the two years of granger legislation 1874 and 1875 are still more startling, as we find that Wisconsin leads all the states, and has an increase more than twice as great as the average for the four western.

The granger agitation and acts should surely have affected the three years from 1873 to 1875 more than any other period; yet column 4 makes the strongest showing for Wisconsin, with an increase of over 36.6 per cent. against a little less than 10 per cent. for the four western states, and a still lower average (9 per cent.) for the other three granger states. This 36.6 per cent. of Wisconsin is still more remarkable, as the total mileage for the United States increased less than 14 per cent.

Even after thus increasing its mileage from $3\frac{1}{2}$ to 4 times as fast as the other granger and four western states for 1873-75, Wisconsin held her own for 1876-77 with 5.3 per cent. as compared with 5.5 per cent. for all granger and 5.6 per cent. for the four western. Therefore, the evil effects of the granger acts on railroad building could not have worked out just after the repeal of the acts. For the whole period of seven years from 1873 to 1879 Wisconsin has an increase of over 54 per cent., which is much larger than any granger state except Minnesota with 57 per cent. and any of the four western except Nebraska with 55 per cent. As during the granger acts these two states for 1873-75 had only 4.4 per cent. and 11 per cent. compared with Wisconsin's 36.6 per cent., it is very plain that their railroad building came in the years following the repeal of the granger laws. In this longer period of seven years, no other state than the three already discussed was as high as Missouri with 39 per cent.

From the figures of Table D, it seems evident that Wisconsin's railroad building did not come to a sudden standstill because of the granger acts, but that she extended her railroad system several times as fast as any of the other granger or neighboring states, or as the United States as a whole. So far from serving as a horrible example of the automatic action of bad laws on railroad construction, her growth in mileage might be used as a very strong argument for the tonic effects of the "Potter law" on railroad building.

Net earnings of Wisconsin.—Table E shows the net earnings of Wisconsin. It corresponds closely with Table C, and should be compared with it. Table E includes each of the four granger states and four western states, to bring out the relative position of Wisconsin among her neighbors. In this table the figures for Minnesota and Nebraska are unimportant, as their average net earnings for 1871 and 1872 were only \$600,000 and \$100,000 respectively, and consequently a

very small change in actual receipts makes a big fluctuation in the percentages.

TABLE E.

Increase of average net earnings in per cent. compared with average net earnings for two years 1871 and 1872.

	1 1874-1875.	2 1873-1876.	3 1873-1879.
Illinois	30	29	43
Wisconsin	30	43	60
Minnesota	80	67	150
Iowa	16	8
Four granger	29	31	44
Indiana ¹	15	21	22
Michigan	30	22	24
Nebraska	400	300	600
Missouri	40	34	55
Four western	15	9	30

¹ Decrease.

For the years 1874 and 1875 the table shows that the net earnings for Wisconsin increased by 30 per cent., the same as Illinois and Michigan, Missouri led with 40 per cent. increase — as Minnesota and Nebraska may be disregarded for the reasons given above. Iowa shows no increase and Indiana shows a decrease of 15 per cent., which means an actual loss of \$1,000,000 for the yearly average, though Indiana was not a granger state.

Wisconsin leads for the four years 1873-76, with 43 per cent., as compared with 29 per cent. for Illinois, 16 per cent., for Iowa, 34 per cent. for Missouri and 22 per cent. for Michigan. Indiana again shows a decrease, this time of 21 per cent. For the seven years 1873-79 Wisconsin makes the best showing, with 60 per cent., compared with 43 per cent. for Illinois, 8 per cent. for Iowa, 55 per cent. for Missouri, and 24 per cent. for Michigan. Once more Indiana shows a decrease, 22 per cent. This table of net earnings is open to the same criticism as Table C. The basis of comparison is too narrow and the figures too limited to give decisive results. Nevertheless, Tables D and E show that Wisconsin had a much better record for railroad building and net earnings than any of the granger states or four neighboring western states. In fact Indiana is more of a "horrible example" than any granger state.

The question of dividends is more difficult to answer than that of net earnings, since dividends may be manipulated at will by the men

in control of a railroad corporation. Considerable work spent on the meager and confused figures of *Poor's Manual* and the State Reports, has given no results of substantial value, so much appears, however, as that both in 1874 and in 1875 eighteen states paid no dividends. In view of these facts the statement that in one of those years Wisconsin paid no dividends loses much of its weight, and the surprise is that all the granger states paid dividends for the two years except Wisconsin.

After this brief investigation of the results in Wisconsin, we may quote again from President Hadley's *Railroad Transportation*, to show the most authoritative and universally accepted view of Wisconsin and the granger acts.

But a more powerful force than the authority of the courts was working against the granger system of regulation. The laws of trade could not be violated with impunity. The effects were most sharply felt in Wisconsin. The law reducing railroad rates to the basis which competitive points enjoyed, left nothing to pay fixed charges. In the second year of its operation no Wisconsin road paid a dividend; only four paid interest on their bonds. Railroad construction had come to a standstill. Even the facilities on existing roads could not be kept up. Foreign capital refused to invest in Wisconsin; the development of the state was sharply checked; the very men who had favored the law found themselves heavy losers. These points were plain to everyone. They formed the theme of the governor's message at the beginning of 1876. The very men who had passed the law in 1874 hurriedly repealed it after two years' trial.

The weight of written authority supports all these statements, as is already shown in the first part of this paper, where I have tried to sketch briefly the growth of these ideas from 1874 to the present time. The granger acts appear in fact to have had very little effect on railroad building and railroad receipts, because of the overshadowing influence of the financial panic of 1873 and the depression which lasted till 1879. To illustrate: The railroads of the United States in the three years, 1871-73, increased at an average rate of 5,800 miles every year. For the five years following the panic, the building was only 2,300 miles a year. With the return of good times in 1879 it jumped to 4,723, and in 1881 it is nearly 10,000. In the single year 1882 it is 11,600, or as many miles as in all five years from 1874 to 1878. The granger states, of course, did not escape this panic, but as regards railroad building and receipts they suffered less than the United States as a whole, and very much less than the southern and western states.

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